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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/564,729

10/16/2006

Peggy Studer

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EXAMINER

PEZZUTO, HELEN LEE

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,729	Applicant(s) STUDER ET AL.	
	Examiner Helen L. Pezzuto	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 10-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9/11/08.

2. This application contains claims 1-10 drawn to an invention nonelected with traverse in the reply filed on 9/11/08. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Response to Amendment

Applicant's amendment to claim 4 filed in the response on 2/17/09 is acknowledged. Currently, claims 1-9, and 13-19 are under consideration.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "photopolymerizable group" according to claim 1. There is insufficient antecedent basis for this limitation in the claim 1.

Claim Objections

5. Claim 2 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The recited "photopolymerizable group" in claim 2 is much broader than the "photochemically isomerizable or dimerizable molecule" expressed in claim 1. One skilled in the art would recognize that not all photopolymerizable groups are isomerizable or dimerizable.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-9, and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herr et al. (US-427) or Gibbons et al. (US-404) or Herr et al. of US-087 (applicable to claims 1, 3, and 5-9).

US 6,107,427 to Herr et al. discloses a crosslinkable, photoactive polymer composition comprising units of compound I. Prior art further discloses copolymer composition containing comonomer units which may be further structures or formula I (col. 5, line 52 to col. 6, line 9; col. 9, lines 21-39; col. 12, line 65 to col. 14, line 4). Specifically, rings B and C within structure formula I can have naphthalene moieties which are defined within the scope of the instant sensitizer-containing monomer (b) (col. 3, lines 54-58; col. 4, lines 2-6; cols. 35-36, Example 8). US-427 further exemplifies photoactive monomers within the scope of the instant photochemically isomerizable or dimerizable monomer (a) (see working examples). Other suitable ethylenically unsaturated comonomers within the

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scope of the instant monomer (c) are also suggested (col. 5, line 52 to col. 6, line 9).

US 6,201,087 to Herr et al. discloses and exemplifies photoreactive polymers derived from coumarin or quinolinone derivatives defined within the scope of the instant (b) monomer (col. 4, lines 22-65). Prior art further discloses and exemplifies copolymer containing repeating units which fall within the scope of the instant (a) and (b) monomers (cols. 25-26, Example 8). Furthermore, the coumarin monomers are taught to be "photochemically dimerizable" which are also within the scope of the instant (a) monomer. Other unsaturated monomers taught within the scope of the instant monomer (c) are also disclosed.

Similarly, US 6,919,404 to Gibbons discloses hybrid polymer for liquid crystal alignment layers comprising a polyimide component and at least one addition monomers. Prior art polyimides can be derived from functional dianhydrides including naphthalene group-containing dianhydrides (col. 6, lines 53-56), which fall within the scope of the instant monomer (b). Furthermore, US-404 teaches using addition monomer having coumarin structures, within the definition of the instant monomer (b) (col. 8, line 53 to col. 9, line 20). Other addition monomers taught include those of the instant monomer (a) (cols.

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9-12, Tables 3, 4). Other functional addition monomers are further suggested.

Accordingly, it would have been obvious to one having ordinary skill in the art to select the recited monomers (a), (b) , and (c) to form the claimed copolymer composition as suggested in the prior art references, motivated by the reasonable expectation of success in producing photoactive materials suitable in the manufacturing of optical alignment layers.

Response to Arguments

Applicant's amendment and remarks filed on 2/17/09 have been fully considered. The crux of applicant's argument lies in the lack of teaching in prior art references regarding the sensitizer function of the various disclosed moieties (i.e. naphthalene, coumarin, etc.) which are covalently bonded to the respective monomers used to produce prior art products. The examiner is of the position that the sensitizer property would be inherent in prior art naphthalene and coumarin moieties because the very same function would necessarily be an inevitable consequence of practicing prior art inventions. It is a reasonable presumption that the properties of the identical chemical entities to be identical. See *In re Fitzgerald et al.*, 205 USPQ 594. Finally, with regard to US-087, applicants urge

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that there is not copolymer disclosed having both recited components a) and b). The examiner disagrees because both a) and b) are taught within the scope of prior art "photodimerizable" coumarin or quinolinone derivatives, and copolymers exemplified in Examples 8 and 11 clearly encompass the recited a) and b) as defined in claims 1 and 3. Accordingly, the examiner's position is maintained.

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L.

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Pezzuto whose telephone number is (571) 272-1108. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helen L. Pezzuto/
Primary Examiner
Art Unit 1796

hlp